Training Project

The following gives a guideline for learning technologies and frameworks that we currently use at GenVis.

Technology Overview

We are looking to develop competency in the following;

- ReactJS
- NodeJS / Express
- Docker
- Docker Compose
- PostgreSQL
- AWS

Prior Learning

As discussed, to get started in the right direction it would be best to complete some online courses first to understand the technologies well enough to begin a project involving them. Hence, the following courses would be worth completing;

ReactJS https://www.udemy.com/react-the-complete-guide-incl-redux/
NodeJS https://www.udemy.com/the-complete-nodejs-developer-course-2/
Docker https://www.udemy.com/docker-mastery/
PostgreSQL - You can probably get away without doing a course on this. A few good resources anyway;
- https://www.w3schools.com/sql/
- https://severalnines.com/blog/deploying-postgresql-docker-container
AWS https://www.udemy.com/aws-certified-cloud-practitioner/

Project

The main focus is to become familiar with the above mentioned technologies, so the aim of your learning will be to use all of these technologies in a practical manner for a small project.

You will be building a campground review application. A user of the application should be able to log in (using bearer token based authentication). The user should then be able to view all campgrounds they have created, as well as all other user created campgrounds. A user should be able to write a review, and give a rating out of 5 stars. The review should then display all information regarding who wrote the review, when etc. etc.

A user should only be able to edit the campgrounds they have created. All campgrounds should include an image, a title, a description, and a latitude and longitude. The position of the campground should then be displayed on an interactive map.

You should build a decoupled application, the frontend and the backend should be deployed on separate servers and communicate over REST. They should both be dockerised applications, and you should aim to build a development environment for this using docker-compose, where the frontend, backend, and database are all services in your docker-compose environment. You should use environment variables for configuration management in all your services. You should use react for the frontend, and express for the backend. For communicating with your database, you should use 'knex.js'. For styling the frontend, we use 'semantic-ui', so you should aim to become familiar with that. We are a very design centric company, so you should attempt to design the UI/UX in a user friendly way.

You should deploy the application on EC2 instances on AWS, in docker containers. If you allow users to upload campground images and store these on S3 that would be great, but not required. Also setting up DNS and SSL for your services would be good learning as well, but also not required.

Details

As discussed, this project is entirely optional, and however long you wish to spend on this is your choice. This is mainly a guideline to assist you in understanding the requirements for working in a professional organisation. We cannot commit to ensuring employment at the completion of this work, however it will be a valuable experience nonetheless and as always there is potential for part time work once proficiency is shown.

You can communicate your progress to rob either via email or via phone. You are welcome to come and work on these projects in our office at any point also. Rob will be

willing to assist you along the way with difficulties you have, but you must be aware that this is dependent obviously on time pressures associated with project work.

At this stage depending on your progress we will be looking to assess your development around February and ascertain whether we feel there is a) work available for you b) sufficient competency to contribute in a meaningful way